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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/954,602	09/17/2001	Petri Ahonen	324-010512-US(PAR)	8277

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FAIRFIELD, CT 06824

EXAMINER

VO, HUYEN X

ART UNIT	PAPER NUMBER
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2626

MAIL DATE	DELIVERY MODE
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08/10/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/954,602

Applicant(s)

AHONEN, PETRI

Examiner

Huyen X. Vo

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 6-10, 12, 17-21, and 23-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wigren et al. (US 5572622) in view of Wood et al. (US 6092230).

3. Regarding claims 1, 12, 23, and 24, Wigren et al. disclose a method of processing a speech frame in a radio system, a radio system, a mobile station in a radio system, and a network of radio system, comprising:

channel-decoding a speech frame having propagated over a radio path (*Channel decoder 24 in figure a*);

if the speech frame is free of defects on the basis of the channel-decoding (*col. 4, lines 38-47, CRC, or element 102 in figure 2*),

it is inferred, only from the value of at least one speech parameter in the channel-decoded speech frame and not from using channel codes, whether the speech frame contains speech that is decodable by means of a speech decoder (*speech detector 34 in figure 1*), and if, according to the inference, the speech frame does contain speech that is decodable by means of a speech decoder, the speech frame is

decoded by means of a speech decoder (*if the speech frame is OK as indicated in element 102 in figure 2 , then forward the frame to speech decoder 40 in figure 1*).

Wigren et al. fail to specifically disclose if, according to the inference, the speech frame does not contain speech that would be decodable by means of a speech decoder, the speech frame is not decoded. However, Wood et al. teach if, according to the inference, the speech frame does not contain speech that would be decodable by means of a speech decoder, the speech frame is not decoded (*element 209 in figure 2, receives SID, element 10, and generate comfort noise and then add to the decoded speech signal*).

Since Wigren et al. and Wood et al. are analogous in the art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Wigren et al. by incorporating the teaching of Wood et al. in order to produce comfort noise to please the ears of users during silence intervals.

4. Regarding claims 6-10, 17-21, and 29, Wigren et al. further disclose that the symbols in the speech frame that are protected by channel coding are also used in the inference (*CRC in channel decoding, also referring to deciding means 20 and 28 in figure 1*) and the inference is performed by utilizing probability calculation (*referring to deciding means 20 and 28 in figure 1*), wherein in the inference the probability of the value of at least one speech parameter is calculated (*referring to deciding means 20 and 28 in figure 1*), the probability of change in the value of at least one speech

Art Unit: 2626

parameter is calculated (*referring to deciding means 20 and 28 in figure 1*), and a threshold value has been defined for the probability of change in the value of a parameter during a given number of speech frames (*referring to deciding means 20 and 28 in figure 1*), and wherein the speech frame is examined to determine a value for the at least one speech parameter in the channel decoded speech frame (*referring to deciding means 20 and 28 in figure 1*).

5. Regarding claims 25-28, Wigren et al. further disclose subject matters claimed in claims 1, 12, and 23-24, further comprises a terrestrial trunked radio system (*background section, radio communication*).

6. Claims 2-5 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wigren et al. (US 5572622) in view of Wood et al. (US 6092230), and further in view of Dunlop et al. (incorporated by reference).

7. Regarding claims 2-3 and 13-14, Wigren et al. fail to specifically disclose that the speech frame is encrypted, whereby decryption of the speech frame is performed in the method and decrypting the speech frame after the channel-decoding, prior to the inference. However, Dunlop et al. teach that the speech frame is encrypted, whereby decryption of the speech frame is performed in the method (*figure 7.4 page 263*) and decrypting the speech frame after the channel decoding, prior to the inference (*figures 7.2 and 7.4 on pages 261 and 263*).

Since Wigren et al. and Dunlop et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Wigren et al. by incorporating the teaching of Dunlop et al. in order to enhance communication security.

8. Regarding claims 4-5 and 15-16, Wigren et al. fail to specifically disclose that according to the inference, the speech frame does not contain speech that would be decodable by means of a speech decoder, a bad frame indication is sent to the speech decoder, and wherein if, according to the inference, the speech frame does not contain speech that would be decodable by means of a speech decoder, a homing sequence is sent to the speech decoder. However, Wood et al. further disclose that that according to the inference, the speech frame does not contain speech that would be decodable by means of a speech decoder, a bad frame indication is sent to the speech decoder (*col. 6, lines 1-24 or output of element 406 of figure 4, the BFI is used to correct the corrupted frame for the decoder*), and wherein if, according to the inference, the speech frame does not contain speech that would be decodable by means of a speech decoder, a homing sequence is sent to the speech decoder (*that is muting the frame or zero out the frame, col. 7, lines 1-40*).

Since Wigren et al. and Wood et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Wigren et al. by incorporating the teaching of Wood et al. in order to improve sound quality of the reconstructed speech.

9. Claims 11 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wigren et al. (US 5572622) in view of Wood et al. (US 6092230), and further in view of Lagerqvist et al. (US 5502714).

10. Regarding claims 11 and 22, Wigren et al. fail to specifically disclose that if the probability of change is lower than the threshold value, it is inferred that the speech frame does not contain speech that would be decodable by means of a speech decoder. However, Lagerqvist et al. teach that if the probability of change is lower than the threshold value, it is inferred that the speech frame does not contain speech that would be decodable by means of a speech decoder (*col. 6, lines 24-67*).

Since Wigren et al. and Lagerqvist et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Wigren et al. by incorporating the teaching of Lagerqvist et al. in order to detect speech/silence portions of the received signal so that to signal to speech decoder to decode only speech portion of the signal.

Conclusion

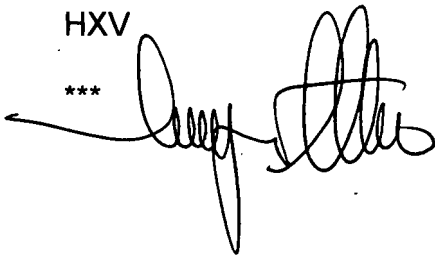
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen X. Vo whose telephone number is 571-272-7631. The examiner can normally be reached on M-F, 9-5:30.

Art Unit: 2626

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on 571-272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HXV

A handwritten signature in black ink, appearing to be "J. H. V.", written over the "Hxv" and "***" text.

8/4/2007